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**Amendment to the Claims:**

1. (Previously Amended) An apparatus for frequency adjustment of piezoelectric resonators by ion etching in a vacuum chamber, comprising:

a tray holding multiple resonators in a matrix pattern of columns and rows,

facing the tray, an ion gun having a race-track shaped beam pattern, including two straight-track portions,

means for aligning two rows of resonators with the two straight-track portions of the ion beam, and for stepping the tray to the next two rows of resonators,

means for controlling the ion flow to the resonators,

instrumentation for monitoring the frequency of the exposed resonators and for cutting off the ion flow when the resonator frequencies reach predetermined target values.

2. (Previously Amended) The apparatus according to claim 1, wherein the distance between the two straight-track portions of the racetrack pattern is a multiple of the distance between two adjacent rows of the tray,

the ion flow is controlled by two rows of shutters positioned between the resonators and the two straight-track portions of the ion gun.

3. (Previously Amended) The apparatus according to claim 1, wherein the ion flow to the two rows of resonators is unequal.

4. (Currently Amended) The apparatus according to claim 3, wherein the unequal ion flow is obtained by partial closing of ~~one of the rows~~ a row of shutters.

5. (Previously Amended) A method for frequency adjustment of piezoelectric resonators by ion etching in a vacuum chamber, based on

holding the resonators in a tray of columns and rows,

facing the resonators with an ion gun having a race-track shaped beam pattern including two straight-track beam portions,

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aligning two rows of resonators with the two straight-track portions of the ion beam,

controlling the ion flow to the resonators,

monitoring the frequency of the exposed resonators and cutting off the ion flow when the resonators reach predetermined target values,

stepping the tray to the next row of resonators and repeating the adjustment process.

6. (Previously Amended) The method according to claim 5, further including controlling the ion flow by means of shutters.

7. (Previously Amended) The method according to claim 5, wherein controlling the ion flow includes:

controlling the ion flow such that the ion flow to the two rows of resonators is unequal.

8. (Previously Amended) The method according to claim 5, further including:

reducing the ion flow to one of the rows of resonators.

9. (Previously Presented) The method according to claim 8, wherein reducing the ion flow to one of the rows of resonators includes:

partially blocking the ion flow with at least one shutter.